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IS 4856 (1968): New Jute Woolpack [TXD 3: Jute and Jute Products]

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Indian Standard

SPECIFICATION FOR NEW JUTE WOOLPACK

Third Reprint MAY 1990

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Gr 3 *January* 1969

Indian Standard

SPECIFICATION FOR NEW JUTE WOOLPACK

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NEW DELHI 110002

Indian Standard

SPECIFICATION FOR NEW JUTE WOOLPACK

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 5 December 1968, after the draft finalized by the Jute and Jute Products Sectional Committee had been approved by the Textile Division Council.

0.2 Woolpack as the name implies is intended to be used in the packing of wool and is largely consumed by the Australian and New Zealand wool markets. This standard covers the new type of woolpack developed by the Indian Jute Industry.

0.3 All quantities and dimensions have been expressed in the metric system. However, corresponding values in fps system have also been given in parenthesis wherever necessary for information only, at the request of the consumers in the overseas countries.

0.4 This standard contains clauses **4.5**, **5.2** and **6.1** which either call for agreement between the buyer and the seller or allow the purchaser to use his option in selection to suit his requirements.

0.5 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS:2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard prescribes constructional details and other particulars of New Jute Woolpack.

2. TERMINOLOGY

2.0 For the purpose of this standard, the following definitions shall apply.

2.1 Lot — The quantity of New Jute Woolpacks purporting to be of specified dimensions and quality, containing one definite number of packs delivered to one buyer against one despatch note.

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*Rules for rounding off numerical values (*revised*).

2.2 Bale — A rectangular or square, pressed, rigid package containing New Jute Woolpacks, covered with bale covering with outer layer stitched and bound by metal hoops in conformity with IS : 2873-1966* (*see also* **5.2**).

2.3 Contract Net Weight of Bale — The weight as obtained by multiplying a nominal weight of a pack and the specified number of packs per bale.

2.4 Corrected Net Weight of Bale — The weight obtained by adjusting the actual net weight on the basis of actual regain to the contract regain. It is calculated as follows:

$$\text{Corrected net weight of a bale (kg)} = \frac{\text{Net weight (kg)} \times (100 + \text{contract regain percent})}{100 + \text{average moisture regain percent}}$$

2.5 Contract Regain — The percentage moisture regain on the basis of which the weight per pack and the corrected net weight of a bale are calculated.

2.6 Ends — The warp threads of a fabric.

2.7 Picks (or Shots) — The weft or filling threads of a fabric.

NOTE — Shots per inch = picks per decimetre × 0·254.

2.8 Porter — The value obtained by counting in packs as marketed, the number of warp threads per full gauge length of 47 mm (37/20 in) and dividing it by the number of warp threads per split which is 6 in this case.

NOTE — This definition of porter based on the Indian practice, refers to the finished cloth and has to be distinguished from the Dundee practice, according to which porter is evaluated in terms of loom reed used in weaving the cloth.

2.9 Joined Pack — A pack with any one of the sides made from 2 pieces, instead of a single piece, of woolpack cloth.

3. GENERAL REQUIREMENTS

3.1 Cloth — The packs shall be made from double-warp, 2/1 twill weave jute cloth of uniform construction. Unless otherwise specified, the cloth shall have a single red stripe about 13 mm (½ in) wide woven along the length of the cloth about 76 mm (3 in) away from one of the selvedges. The cloth used for loose top shall have a woven red stripe about 13 mm (½ in) wide running along the centre of the cloth. The cloth shall be cropped on both sides and then calendered so that the cloth has a smooth finish and relatively free from hairiness.

3.2 Woolpack — The woolpack shall be in shape box-like, with a loose top as the top cover and 4 flaps projecting from the mouth of the pack.

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*Specification for packaging of jute products in bales. (Since revised).

3.2.1 *Seam* — The seams shall be made with overhead stitches on selvedges, using 4-ply jute twine of 362 tex × 4 (10½ grist × 4) to 379 tex × 4 (11 grist × 4). The stitching shall be of even tension throughout with the loose ends securely fastened and the stitching shall have adequate cover. The number of stitches per decimetre shall be between 9 and 11.

3.2.2 *Hemming* — The raw edges of the mouth of the pack and top cover shall be hemmed to a width of 25 ± 13 mm (1 ± ½ in) and the raw edges at the bottom shall be hemmed to a width of 38 ± 13 mm (1½ ± ½ in). The hemming shall be done with single jute yarn of 362 tex (10½ grist) to 379 tex (11 grist) of the same batch as the yarn for fabric. The number of stitches per decimetre shall be between 9 and 11.

3.3 Joined Pack — The seam for joining the 2 pieces in a joined pack shall be made of at least two double looper union stitches. The seam shall have a breaking load of not less than 204 kg (450 lb) when tested by strip method.

3.4 Freedom From Defects — The cloth used in the packs should be generally free from weaving defects such as, holes, cuts, tears, floats, crushed selvedge, spots and stains. The packs should be generally free from sewing defects such as,gap stitch, loose ends and frayed ends.

4. SPECIFIC REQUIREMENTS

4.1 The new jute woolpack shall conform to the requirements as laid down in Table 1.

4.2 Contract Regain — The contract moisture regain shall be 16 percent.

4.3 Cleanliness — Both inside and outside of woolpacks shall be clean and free from adhering loose fibres, yarns, twines and other foreign matter. It is a critical requirement.

4.4 Identification Mark

4.4.1 *Red Stripe on Body* — On the body of the woolpack, the red stripe shall appear towards the right-hand edge on 3 sides of the pack and towards the left-hand edge on one side of the pack (*see* **3.1** *and* Fig. 1).

4.4.2 *Red Stripe on Loose Top* — The red stripe on loose top shall run along its centre (*see* **3.1** *and* Fig. 1).

4.5 Number of Packs Per Bale — The number of woolpacks in a bale shall be 50 or as agreed to between the buyer and the seller. Joined packs (*see* **3.3**) shall not be more than 2 per bale of 50 packs.

4.6 Contract Net Weight — The contract net weight of a bale of 50 packs converted to 16 percent contract moisture regain shall be 187·1 kg (412·5 lb).

TABLE 1 REQUIREMENTS OF NEW JUTE WOOLPACK

(*Clause* 4.1)

Sl No.	Characteristic	Requirement	Method of Test (Ref to Cl. No.)
(1)	(2)	(3)	(4)
i)	Dimensions of a pack:		
	a) Height	$137^{+2\cdot5}_{-1\cdot2}$ cm ($54^{+1}_{-\frac{1}{2}}$ in)	B-5
	b) Length	$68\cdot5^{+2\cdot5}_{-1\cdot2}$ cm ($27^{+1}_{-\frac{1}{2}}$ in)	
	c) Width	$68\cdot5^{+2\cdot5}_{-1\cdot2}$ cm ($27^{+1}_{-\frac{1}{2}}$ in)	
	d) Loose top	$81\cdot5^{+2\cdot5}_{-1\cdot2} \times 81\cdot5^{+2\cdot5}_{-1\cdot2}$ cm ($32^{+1}_{-\frac{1}{2}} \times 32^{+1}_{-\frac{1}{2}}$ in)	
	e) Unsewn flap	40·5 ± 1·2 cm (16 ± ½ in)	
ii)	Weight per pack at the contract moisture regain of 16 percent	$3\,742^{+170}_{-113}$ g ($8\frac{1}{4}{}^{+\frac{3}{8}}_{-\frac{1}{4}}$ lb)	B-3
iii)	Ends/dm (porter)	89 ± 5 (7·0 ± ⅓)	B-6
iv)	Picks/dm (shots per inch)	35 ± 2 (9 ± ½)	
v)	Breaking Load:		
	a) Fabric, 100 × 200 mm strip	Warpway 299 kg (660 lb) Weftway 329 kg (725 lb)	B-7
	b) Seam, 50 × 200 mm strip	Side 109 kg (240 lb) Bottom 107 kg (235 lb)	B-8
vi)	Moisture regain, percent, *Max*	17·0	B-2
vii)	Oil content on dry-deoiled material basis, percent, *Max*	7·0	B-9

5. LABELLING, PACKING AND MARKING

5.1 Labelling of Packs — A cloth label shall be sewn to the middle of the mouth hemming of any of the flaps of each woolpack and the label shall indicate the following:

a) Name of the mill, and

b) Month and year of manufacture.

5.2 Packing and Marking of Bales — Ten bundles with 5 packs in each bundle shall be packed in a bale. The bundles shall not be tied or stitched with twine. The bundles shall be packed in bales and bales marked as laid down in IS : 2873-1966* or as specified in an agreement between the buyer and the seller.

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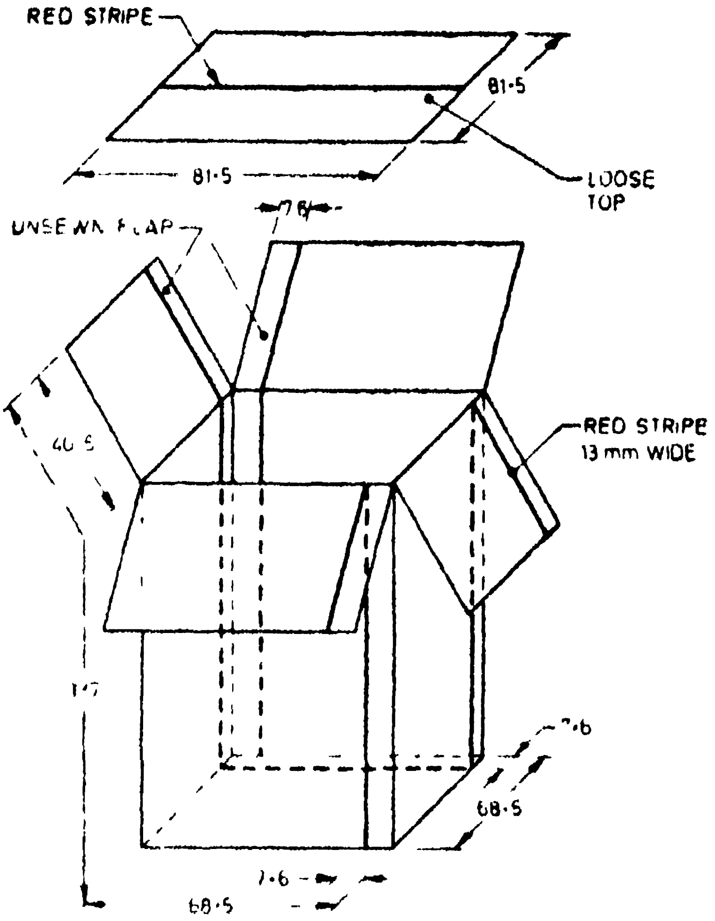
*Specification for packaging of jute products in bales (Since revised).



All dimensions in centimetres.

Fig. 1 A Sketch Showing the Position of 13 mm (½ in) Red Stripe on the Body of the Woolpack

5.2.1 The bales may also be marked with the ISI Certification Mark.

Note — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

6. SAMPLING AND INSPECTION

6.1 Unless otherwise agreed to between the buyer and the seller, procedure for sampling shall be as given in Appendix A and that for testing and inspection as given in Appendix B.

7. CRITERIA FOR CONFORMITY

7.1 The lot shall be considered as conforming to the requirements of the standard, if the following conditions are satisfied:

a) The total of the corrected net weight of the bales under test is not less than the total contract net weight of the bales.

b) The number of packs in each bale under test is not less than the specified number (*see* **4.5**).

c) The number of joined packs in each bale under test is not more than the specified number (*see* **4.5**).

d) The average moisture regain percent of the packs under test is not more than the specified percentage (*see* Table 1).

e) The average oil content of the packs under test is not more than the specified percentage (*see* Table 1).

f) The dimensions of the packs under test are in accordance with the requirements specified (*see* Table 1).

g) The average weight per pack for each bundle under test is in accordance with the requirements specified (*see* Table 1).

h) The average values of end per decimetre and picks per decimetre of the packs under test are in accordance with the requirement specified (*see* Table 1).

j) The average breaking load values of the packs under test for both warp and weft directions are not less than the requirements specified (*see* Table 1).

k) The average breaking load of seam of the packs under test is not less than the requirement specified (*see* Table 1).

APPENDIX A

(*Clause* 6.1)

METHOD OF SAMPLING

A-0. SAMPLING PROCEDURE

A-0.1 The minimum number of bales and packs shall be taken at random from the lot as follows and subjected to corresponding tests (*see* Appendix B).

A-1. GROSS WEIGHT

A-1.1 For evaluating gross weight of the bales, 10 percent of bales, selected from the lot, shall constitute the **test sample**.

A-2. REQUIREMENTS OTHER THAN GROSS WEIGHT

A-2.1 For assessing conformity to the requirements other than gross weight of the bales, the number of bales to be selected from the lot shall be as follows:

No. of Bales in the Lot	*No. of Bales to be Drawn and Opened for Inspection*
Up to 10	1
11 ,, 20	2
21 ,, 100	3
101 ,, 150	4
151 ,, 200	5
201 ,, 250	6
251 ,, 300	7
301 ,, 350	8
351 ,, 400	9
401 ,, 500	10
501 and above	10 + (1 for every 100 bales or part thereof above 500 bales)

A-2.2 From each bale, selected as in **A-2.1**, the test sample shall be drawn as follows:

Test	*Test Sample*
Tare weight (of baling hoops and of all other packing materials)	The bales selected as in **A-2.1**
Total number of packs per bale	At least 15 packs per bale selected as in **A-2.1** subject to a minimum of 50 packs
Number of joined packs per bale	
Cleanliness	

Moisture regain, percent Dimensions* Ends and packs*		Five packs from each bale selection as in **A-2.1**
Weight per pack*		Five bundles (5 packs per bundle) from each bale selected as in **A-2.1**
Breaking load*	Fabric Seam	One pack from each bale selected as in **A-2.1**, subject to a minimum of 2 packs and a maximum of 5 packs
Oil content*, percent		

APPENDIX B

(*Clauses* 6.1 *and* A-0.1)

METHOD FOR TESTING AND INSPECTION

B-0. TESTING AND INSPECTION PROCEDURE

B-0.1 Testing and inspection of the lot as laid down below shall be carried out on the samples drawn in accordance with Appendix A.

B-1. WEIGHT OF BALES

B-1.1 Determine the total gross weight (*W*g) of the bales in the test sample (**A-1**) from the gross weight of each bale to nearest kilogram.

B-1.2 Remove the baling hoops and all other packing meterials or the bales selected as in **A-2.2** and weigh them together up to nearest 100 g. Calculate the average tare weight of bale and multiply by the number of bales weighed (*W*t).

B-1.3 The total net weight of bales under test, $Wn = (Wg - Wt)$.

B-1.4 Determine the total corrected net weight (*W*) of bales under test by the following formula:

$$W = \frac{Wn \times (100 + \text{contract regain percent})}{100 + \text{average moisture regain percent of bales} (\textit{see } \textbf{B-2})}$$

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*Joined packs not acceptable as test samples

B-2. MOISTURE REGAIN

B-2.1 Determine the moisture regain in each pack (**A-2.2**) after opening the bales (**A-2.1**) by the use of a suitable moisture meter. After opening the bales, sufficient time (not less than 10 minutes) be allowed to lapse before measuring moisture regain to enable the cloth to attain conditions for the normal use of moisture meter. Take at least three readings for each pack, two on the pack and one on the loose top.

Note — Indian Jute Industries' Research Association (IJIRA) moisture meter* may be used for the purpose. This meter works on the principle of measuring the electrical resistance which changes with moisture content in the material. The specimen (jute product) is placed under the electrode gun having two poles of specially designed spring-loaded electrodes. The small amount of current passing through the electrodes is amplified and recorded on the matter, calibrated against the actual moisture regain, based on oven-dry method of the material. A separate chart, calibrating the readings of the actual moisture regain based on oven-dry method of the material may also be used. The instrument shall be operated according to the manufacturer's instructions.

B-3. WEIGHT PER PACK

B-3.1 Weigh each bundle of five packs under test (*see* **A-2.2**) together to the nearest 100 g after the tests for **B-1** and **B-2**. Calculate the average weight per pack (W). From the value thus obtained, calculate the average weight per pack at 16 percent contract regain by the following formula:

$$W' = w \times \frac{116}{100 + R}$$

where

W = average weight, in g, per pack at 16 percent contract regain;

w = average weight, in g, per pack at the moisture regain R; and

R = average moisture regain obtained as in **B-2**.

B-4. NUMBER OF PACKS AND JOINED PACKS PER BALE

B-4.1 Count the number of packs and the joined packs in each bale (**A-2.1**).

B-5. DIMENSIONS

B-5.1 Lay (**A-2.2**) on a table each pack free from creases and measure the height, length, width, dimensions of loose top, length of unsewn flaps to the nearest 0·5 cm.

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*Mention of the name of the specific instrument is not intended to promote or give preference to the use of that instrument over others not mentioned.

B-6. ENDS AND PICKS

B-6.1 Count the ends and picks from each pack (**A-2.2**) in one and two places respectively with a suitable gauge measuring 5 cm. Determine the average ends and picks per decimetre of the packs under test in accordance with 7 of IS: 1963-1961*

B-7. BREAKING LOAD OF PACK

B-7.1 Prepare from each side of the body of the pack at least 2 warpway and 2 weftway specimens and test from each pack (**A-2.2**), 10 warpway and 10 weftway specimens for breaking load with 100 mm wide ravelled strips and 200 mm between grips of a strength tester having a constant rate of traverse of 460 mm (18 in)/min according to IS : 1969-1968†.

B-8. BREAKING LOAD OF SEAM

B-8.1 Prepare at least two test specimens from each side and bottom seams and test from each pack (**A-2.2**) 10 and 5 test specimens for breaking load of side and bottom seam respectively taking 200 mm between grips with the seam near about the centre, using a constant rate of traverse machine operating at 460 mm (18 in)/min.

Prepare the test specimens in the form of a double 'T' with 100 mm of seam and 50 mm width of fabric as shown in Fig. 2.

NOTE — Tests for breaking load of fabric and seam may be carried out in the prevailing atmospheric conditions with relative humidity between 40 and 90 percent.

B-9. OIL CONTENT

B-9.1 From each pack, take one representative strip (**A-2.2**) and determine oil content on dry-deoiled material basis by following the method prescribed in IS: 2969-1964.‡

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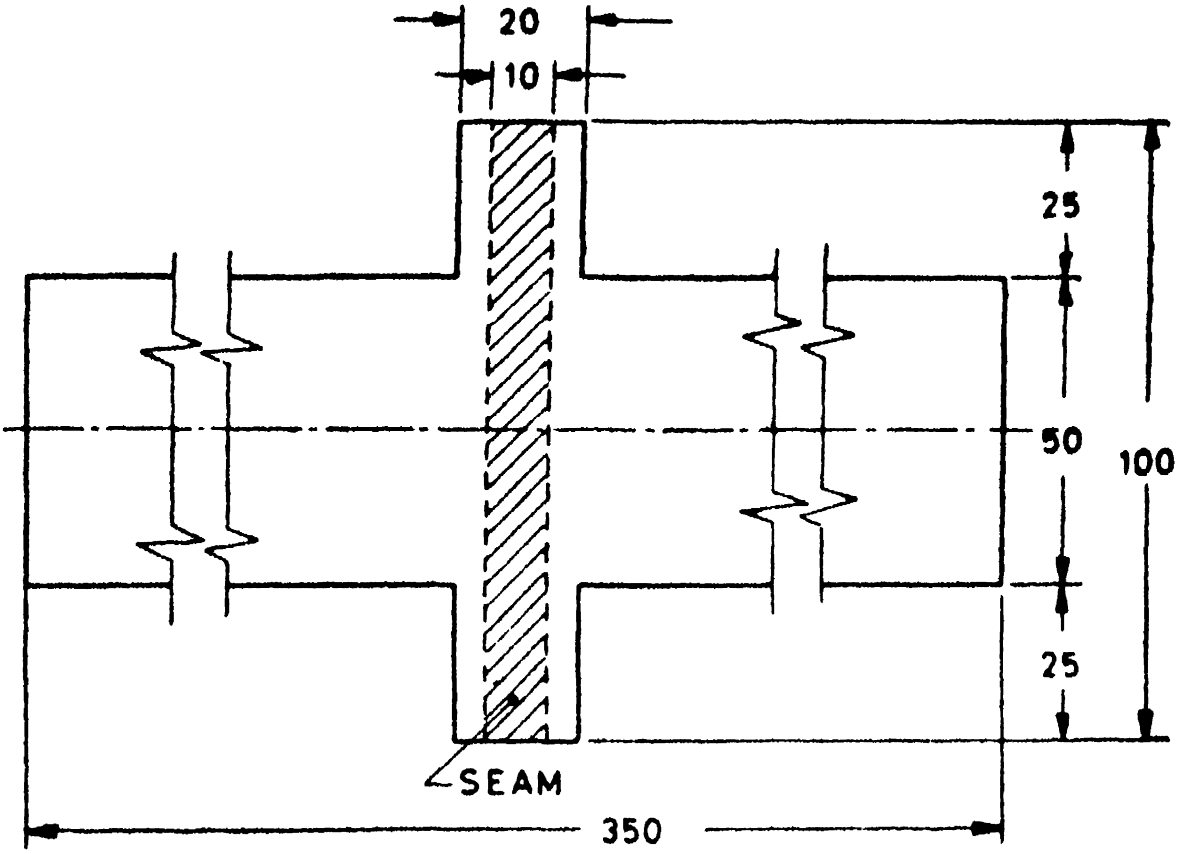
*Method for determination of ends and picks per unit length in woven fabrics. (Since revised).

†Method for determination of breaking load and elongation at break of woven textile fabric (*first revision*).

‡Method for determination of added oil content in jute yarn and fabrics.



All dimensions in millimetres.

FIG. 2 SIZE AND SHAPE OF TEST SPECIMEN FOR SEAM STRENGTH

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